

USSR

UDC 621.32.032.75

RODICHÉV, Yu. M., CHEMERIS, A. N., PEREVORUKHOV, G. I., AMEL'YANOVICH, K. K.,
BOGDORNYY, L. N., KRAYNOVA, E. A., (Kiev)

"Supporting Power of Spherical Ceramic Shells Under External Pressure"

Kiev, Problemy Prochnosti, No 8, 1972, pp 26-29.

Abstract: Results are presented from tests of spheres of an aluminum ceramic under external pressure conditions. It is established that the initial geometric imperfections of the shells, characteristic for ceramic technology, have just as great an influence on the stability of ceramic spheres as on metallic spheres. The high strength of the aluminum ceramic in the shells, evidenced both with single-cycle and repeated-cycle applications of external pressure, is noted. It is remarked that an earlier work [Stachiv, I. B., "Design Parameters for Glass and Ceramic Underwater Structures," Ceramic Age., Vol 81, No 6, 1965] recommends that k be taken as 0.7 in the Zolli formula for critical pressure. The results of this study show that the value of k for spheres with deviations typical for ceramic technology may be lower. The following formula is recommended for aluminum ceramic spheres with R/h ratios of 40:

$$P_{cr} = \frac{0.35 \pm 0.40}{\sqrt{1 - \mu^2}} E (h/R)^2. \quad (6)$$

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UDC 621.52.032.75

RODICHEV, Yu. N., CHEMERIS, A. N., PEREVORUCHOV, G. I., AMEL'IANOVICH, K. K.,
PONOGHNYY, L. N., KRAYNOVA, E. A., Kiev, Problemy Prochnosti, No 8, 1972,
pp 26-29.

The ceramic spheres are found to be capable of withstanding compressive
stresses of up to 70% of the ultimate strength without residual changes in
shape or dimensions, as long as the walls of the spheres do not have signifi-
cant thickness variations.

2/2

Acc. Nr.:

AP0050236Ref. Code: US0000

PRIOR SOURCE: FBIS, Daily Report, Soviet Union, 3 April 1970, Vol. III,
No 65, p. d 1-2

PODGORNYY, KEDYUSH SPEAK TO ACADEMY OF SCIENCES

Moscow TASS International Service in English 1725 GMT 2 Apr 70 L

[Text] Moscow, April 2. TASS--"The Communist Party and the Soviet state will further do everything necessary for the development of science in our country". Nikolai Podgornyy said during the presentation of the Order of Lenin to the USSR Academy of Sciences.

Speaking today at a jubilee meeting of the academy devoted to the centenary of Lenin's birth, Podgornyy noted that the founder of the Soviet state was very well aware of the prime importance of science for the building of the new social system. "Profoundly developed in his works is the question of the immense transforming role of science, the cardinal change in its social significance in conditions of socialism, and the inseparability of science, technical progress and culture from communism.

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The President of the Presidium of the USSR Supreme Soviet said that socialism opened great scope for the development of science, turned it into a national cause and placed it at the service of the loftiest humanistic ideals of mankind. "Following Lenin's behests the party and the state show constant concern for the creation of the most favourable conditions for the training of scientists, their growth and fruitful activity".

Soviet scientists can solve the most complicated scientific problems of today and uncover nature's most guarded secrets. Their creative work taps new reserves of economic growth, multiplies the country's resources, accelerates technical progress and strengthens the Soviet Union's defense potentiality, he said.

The definitive research conducted by the academy's institutes facilitated the tempestuous growth of the power industry, metallurgy, radio-electronics, automation and other branches of other industry. "The extensive development of the most important directions of science and the country's high industrial potential ensured a qualitative breakthrough in the field of aviation, rocketry, and unique machine building. Problems of harnessing the energy of the atomic nucleus, the creation of an atomic industry and the utilization of nuclear energy for peaceful purposes for the first time in the world were solved within the shortest possible period of time", Podgorny said. The Soviet Union leads the world in the implementation of the main stages of space exploration.

19810156

AP0050236

{Moscow TASS International English at 1500 GMT on 2 April supplies the following additional information: President Matislav Keldysh attached the order to the banner of the academy. The jubilee meeting of scientists dedicated to the centenary of Lenin's birth, was held at the Bolshoi theater in Moscow today. Present at the meeting were Andrei Kirilenko, Kirill Muzurov, Pyotr Demichev, Dmitry Ustinov. "Lenin was the first to see the beginning of the grandiose scientific and technical revolution of which we are witnesses", said Matislav Keldysh, the president of the Academy of Sciences, he spoke about the achievements of soviet scientists in the peaceful utilization of atomic energy, space exploration and other fields of knowledge. "Science and technical progress have now become one of the main factors of the competition between the socialist and capitalist world systems." All the great transformations in our country will always be connected with the name of Lenin, Keldysh said.]

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AP0050236

The president of the presidium of the USSR Supreme Soviet noted the academy's substantial contribution to the study of new phenomena of socio-historical development, to the elaboration of various questions of communist construction.

"The further development of social sciences acquires special importance in the present conditions of a drastic aggravation of ideological struggle in the historic competition between different social systems", Podgorny said, "Scientists working in this field must actively oppose and expose various bourgeois theories, anti-communism, rightwing and 'leftwing' revisionism, any tendencies that are hostile to Marxism-Leninism".

Nikolai Podgorny expressed confidence that Soviet scientists will further advance along the road of creative quest.

19810157

Acc. Nr:

AP0054284-

P Ref. Code: UR0463

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PRIMARY SOURCE: Molekulyarnaya Biologiya, 1970, Vol 4, Nr 2,
pp 205-212

FRACTIONATION OF VALINE ISOACCEPTOR tRNAs FROM BAKER'S YEAST

S. K. VASILENKO, F. F. DIMITROVA, L. V. OBUKHOV, I. V. F. PODGORNYY
and N. A. SERBOInstitute of Organic Chemistry, Siberian Branch of the Academy of Sciences,
USSR, Novosibirsk

A new method for the chromatography of isoacceptor tRNAs Val from baker's yeast is described. The chromatography is carried out on TEAE-cellulose columns at 38--40° in solution of 7 M urea and 0.1 M CH₃COOH, in NaCl linear gradient from 0.35 to 0.5 M. Mg²⁺ ions and EDTA in concentrations 0.005--0.01 M have a marked influence on the fractionation. tRNA Val was fractionated into a few isoacceptor fractions. Structural difference of these fractions was confirmed by the analysis of guanylo-ribonuclease digests of ¹⁴C-valyl-tRNA on TEAE-cellulose columns in linear gradient of HCOOH and NaCl in 7 M urea. The final purification of tRNA Val was performed by the chemical method of periodate oxidation.

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REEL/FRAME
19831422

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BAPTIZMANSKIY, V. I., BAKIMAN, N., DMITRIYEV, Yu. V., PROSVIRIN, K. S.,
SHEVELEV, V. V., YANKELEVICH, Ya. P., PODGORODETSKIY, A. A.

"The Problem of the Use of Coagulators During Deoxidation of Steel by Aluminum"

Moscow, Izv. Vuzov, Chernaya Metallurgiya, No 2, 1971, p 51-55.

Abstract: Analysis of the hydrodynamic and thermodynamic factors shows the possibility of using secondary large particles as coagulators for the products of deoxidation of steel with aluminum. The introduction of crushed lime, feldspar, and aluminum to the center mass during deoxidization in the process of siphon pouring of seven-ton ingots of type 3 kp steel was tested. Studies of rolled products produced from these ingots confirmed experimentally the possibility of reducing the level of contamination of the steel with stable nonmetallic inclusions by combined introduction of deoxidizers and coagulators.

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AA0040727 Podgoretskij, A.P.

UR 0482

1-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

242338 HEAT-INSULATION of the top part of a steel ingot is provided by a rapidly hardening composition which is poured between the casting mould and a model. In an example, the composition consists of 95-96% of quartz sand and 4-5% of ferrochrome slag, with addition of 7-10% of a binder comprising water glass and a foaming agent). The insulation does not require any additional drying; it is porous and permeable to gases. This method is simpler and more rapid than the conventional methods.

12.5.68 as 1239974/22-2. V.G. DODOKA et alia.
"ZAPOROZHSTAL'" WORKS. (2.9.69) Bul 13/25.4.69.
Class 31b. Int.Cl.B 22d.

10 18

19750379

AA0040727

AUTHORS: Dodoka, V. G.; Zhil'ko, M. M.; Podgorodetskiy, A. A.;
Gurskiy, G. L.; Tkachenko, A. S.; Shchastnyy, P. M.;
Shevlyakov, N. F.; Petrov, L. G.; Rudichov, K. P.; and
Sidorenko, O. A.

Zavod "Zaporozhstal"

19750380

USSR

UDC 621.791:669.419.4;669.046.552.5

POLYANSKIY, V. M., Candidate of Technical Sciences, PODGORSKIY,
B. N., Engineer, and MAKAROVETS, O. D., Engineer

"Diffusion Processes in the Zones of the Bimetal Ti-Nb and the Trimetal Ti-Nb-Ti
Moscow, Svarochnoye Proizvodstvo, No 3, Mar 71, pp 9-10

Abstract: Metallographic and X-ray structural methods are used to establish that diffusion of niobium into titanium occurs in the Ti-Nb system, particularly in bimetals. The concentration dependence of the mutual diffusion factor in the Ti-Nb system is determined. It is demonstrated that the maximum value of D is 7% niobium. Within the framework of the hypothesis of the circular mechanism of diffusion of metals with the body-centered cubic structure, experimental results on the preferential diffusion of niobium into titanium and the concentration dependence of D are explained by the temperature and concentration dependences of the shear modulus in the Ti-Nb system. Quantitative characteristics of the diffusion zone in Ti-Nb-Ti are produced as functions of heat treatment, as well as data on the distribution of niobium in welded seams of this material. It is demonstrated that the method of X-ray structural analysis is effective for selection of a welding method, providing good quality welded joints in the trimetal.

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USSR

UDC 621.791.052.001.5:669-419.4.669.14.018.
8+669.71

PODGORSKIY, B. N., Engineer, and POLYANSKIY, V. M., Candidate
of Technical Sciences

"Peculiarities of the Structure of the Transition Zone of
Stainless Steel-Aluminum Alloy Bimatsls"

Moscow, Svarochnoye Proizvodstvo, No 2, Feb 71, pp 15-16

Abstract: The specifics of the distribution of the copper contained in an aluminum alloy were studied in the transition zone of bimetals consisting of Kh18N10T steel with aluminum with from 1 to 5% Cu. The bimetallic specimens were produced by friction welding and consisted of bars 30 mm in diameter. Aluminum alloys containing 1, 3 and 5% copper were preliminarily forged and homogenized. It was established that the copper content increased significantly exceeding the concentration in the alloy, and that copper decreases the growth rate of the intermetallide layers.

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USSR

UDC 53.087.92+531.7.087.92

MAR'YANOVSKIY, Ya. M., POLOGOVETS'KIY, M. I., GORNYY, A. V.

"Sensors Using Fluidics Sound Radiators"

Tr. Vses. N.-i. i Konstrukt. Inst "Tsvetmetavtomatika" [Works of All-Union Scientific Research and Design Institute "Tsvetmetavtomatika"], 1971, No 1, pp 138-146, (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A159 by N. S.).

Translation: A study is made of the general properties of fluidics radiators capable of converting a continuous stream of gas or liquid into high-frequency acoustic field energy. Formulas are produced for calculation of the design characteristics of fluidics sound radiators of the stream-wedge and stream-wedge-resonator types depending on properties of the medium forming the stream, its velocity, and the geometric parameters of the radiator-screen system. Satisfactory coincidence between results of calculation and experimental results is demonstrated. 4 Figures; 13 Biblio. Refs.

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USSR

UDC: 531.787.7

PODGOYETSKIY, M. L., SHVARTSER, V. I., SHEYNKERMAN, E. Z., NOSKINA, M. A., MAR'YANOWSKIY, Ya. M., LIVSHITS, A. M., PROZOROV, M. R., "Tsvermetavtomatika" Special Design Office

"A Pneumatic Compensation Differential Manometer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratay, Tovarnyye Znaki, No 36, Dec 71, Author's Certificate No 322676, Division G, filed 24 Nov 69, published 30 Nov 71, p 138

Translation: This Author's Certificate introduces a pneumatic compensation differential manometer which contains a diaphragm measurement unit consisting of a support cushion, diaphragms, a diaphragm connector and a needle gate valve. The manometer also contains a converter which changes force to a pneumatic signal. As a distinguishing feature of the patent, the accuracy and reliability of the device are improved by making the diaphragm connector in the form of a hollow stepped cylinder with flanges for fastening the diaphragms. The needle gate valve is located in the inner cavity of the cylinder, which is equipped with a frame with contact element.

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PODOLSKIY A. L.

Acc. Nr: A70100174 Abstracting Service: Ref. Code:
CHEMICAL ABST. G-10 619 0020

113448g Mechanism of the formation of a compression wave behind a weak shock wave front propagating in a combustible two-phase mixture. Episoy, A. A.; Gel'fand, B. E.; Gorbunov, S. A.; Kostyuk, S. M.; Podolskiy, A. L. (1970). Inzh. Fiz. Khim. Mekhan. Polim. Moscow (USSR). Vol. Akad. Nauk SSSR 1970, 15(1), 61-73 [Phys Chem] (Russ).

The formation of a compression wave behind a weak shock front (Mach no. = 1.05-1.3) was studied in a shock tube contg. kerosine droplets in a N₂O atm. Drop sizes of 0.5 and 2 mm were used. The gas phase varied (30-30% N₂) and initially was at 1 atm and 25° before introduction of the shock wave. The formation of the compression wave and its redistribution in the shock wave were followed by pressure recordings. The principal reason for the formation of a compression wave is the breaking down of the fuel droplets. This occurs in 2 stages. Initially, ~10% of the drops break into 100 μ droplets because of a collapse of the surface of the coarse drops. These fine drops quickly vaporize. The final stage is a flattening of the drops by the pressure of the gas stream, followed by a complete breakup into fine droplets. The formation of the compression wave depends primarily on the mixt. compn., the drop size of the fuel, and the intensity of the initial pressure of the shock wave.

E. H. Coops, Jr. - 1973

REEL/FRAME
19841556

11

Heat, Combustion, Detonation

USSR

UDC:534.222.2

BORISOV, A. A., GEL'FAND, B. Ye., GUBIN, S. A., KLOGARSK, S. M., PODGREBENKOV,
A. L., Moscow

"Reaction Zone Upon Detonation of Two-Phase Mixtures"

Novosibirsk, Fizika Goreniya i Vzryva, Vol. 6, No. 3, Sep 70, pp. 374-385

Abstract: This work presents a study of the nature of the change in thermodynamic and gas-dynamic parameters of a gas-liquid combustion mixture in the reaction zone of the detonation wave. The purpose of the investigation was estimation of the size of the zone of heat liberation beyond the wave, the criterion which determined the possibility of stable propagation of detonation. Calculation of the changes of parameters of a two-phase mixture upon heterogeneous detonation performed using two different mechanisms of transition of the liquid phase to the gas phase showed the following: 1) breakup of droplets significantly intensifies the combustion of the liquid in comparison with the evaporation process;

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UDC:534.222.2

BORISOV, A. A., GEL'FAND, B. Ye., GUBIN, S. A., KLOGARKO, S. M.,
PODGREBENKOV, A. I., Novosibirsk, Fizika Goreniya i Vzryva, Vol. 6, No.
3, Sep 70, pp. 374-385

2) a detonation model constructed on the assumption that the rate of combustion of the two-phase mixture is determined by the rate of drop breakup apparently gives the correct value of reaction zone length; 3) the length of the reaction zone during heterogeneous detonation is decreased sharply with decreasing average liquid drop size; 4) the energy loss to drop acceleration in the reaction zone is slight; and 5) full calculation of the reaction zone with heterogeneous detonation of droplets of at least 100 μ diameter must be performed considering deformation and breakup of the droplets.

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3/2 . 058 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--AMPLIFICATION OF WEAK SHOCK WAVES IN A BURNING TWO PHASE LIQUID GAS
SYSTEM -U-
AUTHOR-(05)-BORISOV, A.A., GELFAND, B.YE., SUBIN, S.A., KOGARKO, S.M.
PODGREBENKOV, A.L.
COUNTRY OF INFO--USSR
P
SOURCE--PMTF ZHURNAL PRIKLADNOI MEKHANIKI I TEKHNICHESKOI FIZIKI,
JAN.-FEB. 1970, P. 168-173
DATE PUBLISHED-----70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--SHOCK WAVE, COMBUSTION R AND O, KEROSINE, OXYGEN, COMBUSTION
RATE, MACH NUMBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1550

STEP NO--UR/0207/70/000/000/0168/0173

CIRC ACCESSION NO--APO118533

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--APO118533

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONSIDERATION OF THE SPECIAL FEATURES OF THE INTERACTION BETWEEN WEAK SHOCK WAVES AND BURNING DROPLETS OF LIQUID FUEL (KEROSENE) IN AN ATMOSPHERE OF GASEOUS OXYGEN. IT IS FOUND THAT THE AMPLIFICATION OF WEAK SHOCK WAVES IN THE MACH NUMBER RANGE FROM 1.1 TO 1.3 IN A REACTING TWO PHASE LIQUID DROPLET GAS MIXTURE OCCURS AS A RESULT OF A SHARP INCREASE IN THE MASS COMBUSTION RATE OF THE FUEL OWING TO ATOMIZATION OF THE DROPLETS. THE INCREASE IN THE MASS COMBUSTION RATE BEHIND THE SHOCK FRONT LEADS TO AN INCREASE IN HEAT GENERATION AND TO THE FORMATION OF A COMPRESSION WAVE WHICH OVERTAKES THE LEADING EDGE OF THE SHOCK WAVE.

UNCLASSIFIED

USSR

UDC 591.1.15

(1)

LYAPIN, YR. N., GUSEV, D. I., KATKOV, A. YE., PODGURSKIY, A. M., and NECHAYEV.
L. I.

"The Dependence of the Accumulation of Radionuclides in the Tissues of Fish
on Temperature and Saline Conditions in the Environment"

Tr. Atlantich. NII ryb. kh-va i okeanogr. (Transactions of the Atlantic
Scientific Research Institute of Fisheries and Oceanography), No 44, 1973,
pp 45-59 (from RZh-Biologicheskaya khimiya, No 11, 10 Jun 73, Abstract No
11 F1418)

Translation: The work presents the findings of an experimental study of the
accumulation of cesium-137, strontium-90, cerium-144, antimony-125, chromium-
51, iron-59, cobalt-60 and ruthenium-106 in the tissues of fish (golden
carp, lake ruff, rainbow trout) at a temperature of 0° and 17° in fresh
water (mineralization up to 100 milligrams per liter) and in artificial sea
water prepared according to the Bruyevich method using salts of super chemical
purity.

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C. Operations Research

USSR

PODINOVSKIY, V. V."Effective Sequences and Their Properties"

Mat. Metody v Sotsial'n. Naukakh. Vyp. 2 [Mathematical Methods in the Social Sciences, No 2 -- Collection of Works], Vil'nyus, 1972, pp 75-88 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V495).

Translation: Suppose $X \subset \mathbb{R}^n$ is a set of alternatives. Then $x^0 \in X$ is called ϵ -effective if there is no point $y \in X$ for which $y_i > x_i^0 + \epsilon_i$, $i = 1, \dots, n$, and for at least one i the strict inequality obtains. The sequence $\{x^k\}$ is called effective if either $\lim_{k \rightarrow \infty} x_i^k = \infty$ for all i , or for any vector $\epsilon \in \mathbb{R}_+^n$,

there is a N such that point x^k is ϵ -effective for all $k > N$. Sufficient conditions are given for effectiveness of a sequence converging on the effective point. Certain properties of the maximizing and lexicographically maximizing effective sequences are also indicated.

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C. Operations Research

USSR

PODINOVSKIY, V. V.

"Lexicographic Problems of Linear Programming"

Zh. Vychisl. Mat. i Mat. Fiz. [Journal of Computer Mathematics and Mathematical Physics], 1972, Vol 12, No 6, pp 1568-1571 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V489, by the author).

Translation: Problems of optimization on the basis of several criteria applied sequentially are studied (i.e., each subsequent criterion is used to constrict the subset of plans which are optimal according to preceding criteria). It is demonstrated that when the set of permissible plan is a closed convex limited polyhedron with a finite number of points, the initial, lexicographic task is equivalent to one problem of linear programming. The proof is constructed. An example is studied of a transport problem with two criteria.

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USSR

UDC 51:330.115

PODINOVSKIY, V. V.

"Use of Procedure for Maximization of Basic Local Criterion for Solution of Problems in the Theory of Vector Optimization"

Upravlyayemye Sistemy [Controlled Systems -- Collection of Works], No 6, Novosibirsk, 1970, pp 17-22, (Translated from Referativnyj Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 Y482 by M. Kazakova).

Translation: Suppose U is the set of permissible solutions, F_i , $i \in I = \{1, 2, \dots, m\}$ are the local criteria, defined in U and forming the vector criterion $F = (F_1, \dots, F_m)$. The vector problem of maximization consists in determining the set U^0 of all effective points. In order to solve this problem, it is suggested that the "basic" local criterion be selected, then maximized with certain limitations on the value of the remaining criteria. The following theorem establishes the method of testing the solution produced for effectiveness.

Theorem. In order for solution u^* to be effective, it is necessary and sufficient that it solve each of the following problems:

$$\max_{u \in U} F_I(u), F_I(u) \geq F_i(u^*), i \in I, I \neq I^*.$$

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USSR

UDC: 681.333:519.2

PODKAMENNYY, I. I.

"A Device for Simulating a Gradual Change in the Parameters of Technical Systems"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 8, Mar 71, Author's Certificate No 296126, division G, filed 22 Dec 69, published 12 Feb 71, p 156

Translation: This Author's Certificate introduces a device for simulating a gradual change in the parameters of technical systems. The device contains a control circuit and adder which are connected together. As a distinguishing feature of the patent, the functional possibilities of the device are extended by including random voltage-level generators, modules for setting up elementary functions, and multipliers. The inputs of the random voltage generators and modules for setting up elementary functions are connected to the outputs of the control circuit, while the outputs of these generators and modules are connected by pairs to the inputs of the multipliers, the multiplier outputs being connected to the adder inputs.

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USSR

UDC: 621.317.7

SEDENKOV, Ye. G., PODKAMINER, L. L.

"An Ampliphase Meter for Measuring Amplitude-Phase Distribution in Antenna Apertures"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. i sverklyam. T. 2 (Report of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp. 108-109 (from Radiotekhnika, No 12, Dec 70, Abstract No 12A337)

Translation: The authors give a block diagram and describe the operation of all modules in an ampliphase meter developed on the basis of a phase meter with frequency conversion. One illustration. E. L.

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USSR

UDC: 621.372.54

MOROZOV, L. N., LUGANIN, V. A., PODKHAIYUZIN, Y. A.

"Printed-Circuit Microwave Filters"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Academic Institutes of Communications. Ministry of Communications of the USSR), 1971, vyp. 53, pp 209-212 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3D28)

Translation: The paper presents the results of development of printed-circuit opposed-pin filter designs which give stable frequency response both under normal conditions and in a given temperature range. An investigation is made of filter designs which differ in the type of cavity grounding. Bibliography of three titles. N. S.

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USSR

UDC 547.821.792'759.32:542.97

YAKHONTOV, L. N., SUGROV, N. N., KANTENOV, V. YA., EGRISHALIMOV, N. YA.,
PRONINA, YE. V., STAROSTENKO, N. YE., and SHKIL'KOVA, V. N., All-Union Research
Institute of Chemical Pharmaceutics imeni S. Ordzhonikidze, and the Moscow
Institute of Chemical Engineering imeni D. I. Mendeleev

"The Heterogenous Fischer Catalytic Reaction. IV. Catalytic Synthesis of 7-Azaindole and 2-Methyl-7-azaindole in the Presence of $\gamma\text{-Al}_2\text{O}_3$ "

Riga, Khimiya Geterotsiklicheskih Soyedineniy, No 5, 1972, pp 656-659

Abstract: This is the first report of the synthesis of 7-azaindole (I) and 2-methyl-7-azaindole (II) by cyclization, respectively, of acetaldehyde pyridyl-2-hydrazone (III) or acetone pyridyl-2-hydrazone (IV) over $\gamma\text{-Al}_2\text{O}_3$ or $\beta\text{-Al}_2\text{O}_3$ (2.6% F) at high temperatures. Both reactions, in addition to I or II, also yielded 2-amidopyridine and 3-methyl-s-triazole[1,4-a]-pyridine. Prior to the experiments the catalysts were activated by exposure to a flow of dry air for 6 hr. at 600°C for $\gamma\text{-Al}_2\text{O}_3$ and at 500°C for $\beta\text{-Al}_2\text{O}_3$ (2.6% F); III and IV were purified by recrystallization from hexane. For the reaction, 7% benzene solutions of III or IV were passed over one or the other of the catalysts at temperatures ranging from 250° to 500°C. The products of the reaction were separated 1/2

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YAKHONTOV, L. N., Khimiya Geterotsiklicheskikh Soyedineniy, No 5, 1972, pp 656-658

either by partition chromatography on an aluminum oxide column or, in the case of I, by gas-liquid chromatography. Evaluation of the results showed that the fluorinated catalyst functioned more efficiently; with this catalyst the maximum yield of I was obtained at 420°C and amounted to 15%, while that of II approached 50% at 315°C.

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1/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--OCCUPATIONAL DISEASES OF THE SKIN IN THE PRODUCTION OF ALUMINA -U-

AUTHOR-(03)-ANTONYEV, A.A., PODKIN, YU.S., LOK, S.M.

P

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 3, PP 92-96

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ALLERGIC DISEASE, INDUSTRIAL HYGIENE, DERMATOLOGY, ALUMINA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PRXY REEL/FRAME--2000/1449

STEP NO--UR/C497/T0/048/003/0092/0096

CIRC ACCESSION NO--APO125082

UNCLASSIFIED

2/2 027

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PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125082

ABSTRACT/EXTRACT--(U) GP-0 ABSTRACT. THE AUTHOR DESCRIBES THE CURRENT STATE OF THE PROBLEM ON INDUSTRIAL HYGIENE AND OCCUPATIONAL PATHOLOGY IN THE PRODUCTION OF ALUMINA FROM BAUXITE ACCORDING TO SOVIET AND FOREIGN LITERATURE SOURCES. UNDER STUDY WERE THE SANITARY AND HYGIENIC CONDITIONS OF WORK IN ALUMINA SHOPS OF THE PAVLODARSK PLANT; THE AUTHORS BRIEFLY DEPICT THE SCHEME OF THE TECHNOLOGICAL PROCESS. DURING STUDIES OF THE RAW MATERIAL AND INTERMEDIATE PRODUCTS OF THE ALUMINA PRODUCTION THE AUTHORS REVEALED THE PRESENCE OF CHROMIUM. DURING THE MEDICAL EXAMINATION OF 301 WORKERS IN 11 PERSONS (3.6PERCENT) THERE WERE DIAGNOSED OCCUPATIONAL DERMATITIS AND ECZEMA. SKIN TESTS IN 6 PERSONS REVEALED AN AUGMENTED SENSITIVITY TO CHROMIUM AND COBALT. A LATENT SENSITIZATION TO THE REFERRED TO ELEMENTS WAS DISCLOSED IN 14 CLINICALLY HEALTHY WORKERS. THUS, THE AUTHORS FOR THE FIRST TIME PROVED THAT THE DEVELOPMENT OF ALLERGIC OCCUPATIONAL DERMATOSIS IN THE PRODUCTION OF ALUMINA FROM BAUXITE IS CONDUCIVE TO THE SENSITIZING EFFECT OF COBALT. THE POSITIVE REACTION TO COBALT COULD, APPARENTLY, BE EXPLAINED BY THE CROSS OR GROUP SENSITIVITY TO THE CHROMIUM. THE AUTHORS PROPOSED A COMPLEX OF MEASURES FOR THE PREVENTION OF OCCUPATIONAL DISEASES OF THE SKIN.

FACILITY: INSTITUT GIGIYENY TRUDA I PROFILAKSEVANIY AHN
SSSR. MOSKVA. FACILITY: KOZHNO-VENEROLOGICHESKIY INSTITUTE.
INSTITUT GIGIENVY TRUDA I PROFRAKOLOGII, SVERDOLOVSK.

1/2 017 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--RADIATION CAPACITY OF HEATED CARBON DIOXIDE AT 2100-500 CM PRIMES
NEGATIVE1 IN THE ABSENCE OF THERMODYNAMIC EQUILIBRIUM -U-
AUTHOR-(02)-KUPYLOVA, L.N., PODKLADENKO, M.V.

P

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(5), 811-18

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--CARBON DIOXIDE, MODEL, MATHEMATIC EXPRESSION, SPECTROSCOPIC
ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1449

STEP NO--UR/0368/T0/012/005/0811/0818

CIRC ACCESSION NO--AP0135120

CLASSIFIED BY _____
DATE _____ BY _____

2/2 017

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135120

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RADIATION CAPACITY OF HEATED CO SUB2 AT 2100-2500 CM PRIME NEGATIVELY, IN THE ABSENCE OF THERMODYNAMIC EQUIL., WAS CALCD. WITHOUT THE USE OF ANY MODEL REPRESENTATIONS OF THE IR BANDS BY NUMERICAL SUMMATION OF THE CONTRIBUTIONS OF ALL THE BANDS PARTICIPATING IN THE RADIATION. THE CALCNE. PROCEDURE CONSISTED IN THE SEQUENTIAL DETN. OF THE CENTERS OF THE VIBRATIONAL BANDS AND ROTATIONAL LINES, THEIR INTENSITIES, AND IN THE CALCN. OF THE MONOCHROMATIC ABSORPTION COEFF. IN THE SPECTRAL INTERVAL THAT YIELDS THE MAX. VALUE OF THE ABSORPTION FUNCTION.

UNCLASSIFIED

Acc. Nr.: **AP0031216**

Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i
Meditiny, 1970, Vol 69, Nr 1, pp 37-38

INHIBITION OF ANAPHYLACTIC SHOCK WITH IMURAN IN GUINEA PIGS

V. A. Ado, A. A. Podkaptsev
Medical Faculty of the P. Lumumba University of Peoples' Friendship and H. Moscow
Medical Institute

Immuno-depressive properties of imuran (azathioprin, BW 37-322) were analyzed. The strongly (in 90% of cases) inhibited the development of anaphylactic shock in guinea pigs, when it was used concurrently with sensitization of the animals with the standard horse serum. For guinea pigs the optimal dosage of imuran was set at 70—75 mg/kg, the absolutely toxic one equalling 300 mg/kg (LD₅₀).

OK

REEL/FRAME
19691265

2

USSR

III. Mathematical Cybernetics
A. Theory of Control Systems

UDC: 577.4

PODKOLZIN, A. S.

"Concerning the Complexity of Recognizing Generator-Automata"

Novosibirsk, Diskretn. analiz--sbornik (Discrete Analysis--collection of works), vyp. 21, Novosibirsk, 1972, pp 31-61 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V420 by Yu. Pottosin)

Translation: A finite automaton is called a generator if any sequence can be realized at its output by appropriate selection of the initial state and the input sequence. The complexity of recognizing a generator automaton is expressed by the function $L(m, n, p)$. The meaning of this function is the maximum length of the shortest sequence which is not realized in an automaton which is not a generator, with m symbols in the input alphabet, n symbols in the output alphabet, and p states.

It is shown that in the case of a Moore automaton as $n=p+\infty$ $\log_2 L(m, n, p) \leq \frac{n-p}{2}$.

If at the same time $p > n, m > p+1$, then $\log_2 L(m, n, p) = \frac{n-p}{2}$. In the case of a

Mili automaton $L(m, n, p) = 2^n - 1$ as $p > n, m > p + n - 2$, and

when $p > 12, p < n, m > p + 16 \left[\frac{p-3}{9} \right]^*$.

$$L(m, n, p) \geq 2^n \left(1 - \left[\frac{p-3}{9} \right] \right)$$

USSR

UDC: 577.4

PODKOLZIN, A. S.**"Complexity of Recognition of Automaton-Generators"**

Novosibirsk, V sb. Diskretn. analiz (Discrete Analysis--collection of works) No 21, 1972, pp 31-61 (from RZh--Matematika, No 7, 1973, Abstract No 7V420)

Translation: A finite automaton is known as a generator if any sequence can be obtained at its output in accordance with an initial state and the input sequence. The complexity in the recognition of the automaton-generator is expressed by the function $L(m,n,p)$. This function represents the maximum length of the shortest sequence that cannot be realized in an automaton which is not a generator, and has m symbols of the input alphabet, n symbols of the output alphabet, and p constants. It is shown that in the case of the Moore automation, for $n = p \rightarrow \infty$, $\log_2 L(m,n,p) \leq (n - p)/2$. If $p \geq 3$, $m \geq p+1$, then $\log_2 L(m,n,p) \sim (n - p)/2$. In the case of the Mil' automaton, $L(m,n,p) = 2^n - 1$ for $p \geq n$, $m \geq p+n-2$, and

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USSR

PODKOLZIN, A. S., Diskretn. analiz, No 21, 1972, pp 31-61

$$L(m, n, p) > 2^n(1 - 2^{1-\left[\frac{p-3}{9}\right]})$$

for $p \geq 12$, $p < n$, $m \geq p+16\left[\frac{p-3}{9}\right]^3$. Yu. Pottosin

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USSR

UDC 661.143.046.41

ZAPLESHKO, N. N., PIVNEVA, S. P., and PODKOLZINA, T. M.

"Growth of Zinc-Sulfide Phosphor Grains During Firing"

Sb. nauch. tr. VNII luminoforov i osoboi chist. veshchestv (Collection of Scientific Works of All-Union Scientific Research Institute for Phosphors and Ultrapure Substances), 1971, vyp. 6, pp 42-49 (English summary) (from RZh-Khimika, No 14, 25 Jul 72, Abstract No 14L131 from summary)

Translation: A detailed electron-microscopic investigation was made of the growth process of zinc-sulfide phosphor grains during firing. Industrial ZnS of a brand "for phosphors" was taken as starting raw material to make the phosphor. The charge was fired at 950°. Firing time varied from 1 minute to 4 hours. Pv [expansion unknown] of the luminescent materials was studied by means of carbon copies shaded with platinum. It was shown that the processes of particle enlargement of the initial ZnS and grain formation of the luminescent material take place in accordance with the basic principles of the physics of sintering.

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USSR

UDK: 661.145:946.474.01

SAFIN, N. Z., POPOV, V. N., ANFIMOV, Yu. A., ~~FOOKOLYAN, T. M.~~

"Equipment for Continuous Synthesis Zinc Sulfide of Improved Quality"

Sb. Nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collected Scientific Works of the All-Union Scientific Research Institute of Phosphors and Extra Pure Materials), 1971, vyp. 5, pp 172-185 (from RZh-Khimiya, No 7, Apr 72, Abstract No 7L172)

Translation: The paper demonstrates the technical possibility and feasibility of converting zinc sulfide production to a continuous method. The best designs with respect to reaction rate constants are shown by formulating a solution in either rotary agitators or equipment with a turbine-type or impingement mixer. The most effective method of washing out sulfides is the method of counterflow washing on drum-type vacuum filters. Results.

1/1

USSR

UDC: 51.6

DANILOV, V. V., PODKOPAYEV, L. P.

"On the Problem of Synthesizing Logic Devices Based on Homogeneous Minimik
Matrices"

Izv. Leningr. elektrotekhn. in-ta (News of Leningrad Electrical Engineering Institute), 1971, vyp. 98, pp 43-48 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V658)

[No abstract]

1/1

USSR

IVANOVSKIY, R. I., MIKHAYLOV, V. G., PODKORYTOV, V. N.

UDC: 9.74

"Investigation of the Stability of Multidimensional Automatic Control Systems by Means of Symbolic Transformations on a Digital Computer"

Irkutsk, Issledovaniye ustoychivosti mnogomernykh sistem avtomaticheskogo upravleniya s pomoshch'yu simvolicheskogo preobrazovaniya na TsVM. Tr. po prikl. mat. i kibernet. Sib. energ. in-t Sib. otd. AN SSSR (cf. English above. Works on Applied Mathematics and Cybernetics. Siberian Power Engineering Institute, Siberian Department of the Academy of Sciences of the USSR), 1972, 79-86, bibliogr. of 7 titles (manuscript deposited in VINITI No 7V713 Dep. by the authors)

Translation: The paper describes a program for getting the characteristic polynomial of a multidimensional automatic control system with coefficients which are analytical expressions of the parameters of the investigated system.

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USSR

UDC 539.389.1

PODKUYKO, V. P., PUSTOVALOV, V. V., ROYTMAN, L. U., STARTSEV, V. I., (Khar'kov)

"Temperature Dependence of Critical Shear Stress of Al-Mg Single Crystals of Various Concentrations at Temperatures Between 1.6 and 300°K"

Kiev, Problemy Prochnosti, No 8, 1972, pp 61-65.

Abstract: This work studies the influence of various concentrations of magnesium on the critical shear stress (CSS) and temperature dependence of CSS over a broad range of low temperatures. Magnesium concentration was varied between 0 and 5.52 at.%. The temperature dependence of CSS was found to have three sectors: 1) between 300 and 120-130°K, the CSS is independent of temperature; 2) between 120 and 4.2°K, the CSS increases with decreasing temperature; 3) below 4.2°K the CSS decreases with decreasing temperature. The value of CSS is proportional to \sqrt{c} in the temperature intervals studied and is satisfactorily described by the concepts of Fleischner concerning the interaction of edge dislocations with maximum elastic stress fields and local changes in the shear modulus with concentration. The absolute value of the drop of CSS at temperatures below 4.2°K increases in proportion to the value of \sqrt{c} , while the relative values are independent of Mg concentration in the alloy.

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USSR

UDC 612.317.7.087.92-932

BERKOVSKAYA, K. F., and PODLASKIN, B. G.

"Commutatable Functional Devices of the 'Scanistor' Type in Optico-Electronic Data Processing Systems"

V sb. Mikroelektronika (Microelectronics--collection of works), vyp. 5, Moscow, "Sov. radio," 1972, pp 48-65 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9, Sep 72, Abstract No 9A114)

Translation: At the present time the most promising class of optico-electronic devices is apparently that of multichannel matrix optrons which use optical and electrical couplings not only within the elementary radiator-photoreceiver cells but also within the radiating and photoreceiving matrices. Interchanging the patterns synthesized on the radiation matrix in the form of radiating configurations and those on the photoreception matrix in the form of configurations of photosensitive elements enables processing of information simultaneously in many channels and, in principle, allows increasing the speed. The scanistor is proposed as a semiconductor structure which is convenient for synthesizing the above-mentioned patterns either on the radiating and photoreceiving matrices or on panels with distributed parameters. Readout of the final optical conversion in the form of shaped pulse train eliminates one 1/2

USSR

BERKOVSKAYA, K. F., and PODLASKIN, B. G., Mikroelektronika, vyp. 5, Moscow,
"Sov. radio," 1972, pp 48-65

of the biggest disadvantages of analog computers -- their low precision. The accuracy of conversion by scanistor devices is determined by the number of optrons in the commutatable matrices. Examples are given for realization of the operations of addition, division, expansion in a series, raising to a power, and filtration on breadboard circuits of discrete scanistors. The theoretical possibilities of such devices are evaluated. Seven illustrations, bibliography of 29 titles. Resumé.

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PODLASKIN, B. G.

Microelectronics

JPRS S7333
25 October 1972

MICROELECTRONICS

Excerpts from Russian-language book edited by F. V. Lurin, Microelektronika, No 5, 1972, Sovetskaya Radio Publishing House, Moscow, USSR 622-621-396-6-1815.

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[R - USSR - P]

UDC 62-523.9.435.8:661.7

Commutable Functional Devices of "Scanner" Type in Sensors for the Optoelectronic Processing of Information. Sov. Inventiv. K. F. and Polotskikh, Publ. In the Collection: Elektronika. Seleniya. V. I. Lutin, No. 40, Sovetskaya Radio Publishing House, 1972.

At the present time the most promising class of optoelectronic devices apparently is the class of multichannel matrix optrons in which optical and electrical contacts are used not only inside the unit cell "irradiator-photoreceiver" but also inside the irradiating and photoreceiver matrices. The replacement of "picture" synthesized on the irradiating mask in the form of irradiating configurations and on the photoresistive matrix in the form of configurations of photon sensitive elements permits the processing of information simultaneously along numerous channels and to a theoretical increase in speed of response of the computers.

As the semiconductor structure, convenient for synthesis of the above "picture" both on the irradiating and on the photoreceiver matrices or panels with distributed parameters, the article suggests a scannistor.

Assuming the final optical converter in the form of a sequence of shaped electrical impulses permits elimination of one of the most substantial disadvantages in analog computers, i.e., their low accuracy. The accuracy of conversion on the scannistors is determined by the number of unit optrons in the commutable matrices.

Examples are given for carrying out the operations of addition, division, expansion into a series, raising to a power, and filtration on models of discrete scannistors.

The theoretical possibilities of such devices are evaluated.

The article contains 7 figures and 29 bibliographic references.

UDC 621.382.32

Influence of Radiation Emission on the Components of MDP Integrated Circuits—Kafmanishev, A.M., Gasman, A.S., and Bykov, V.D. In the Collection: Mikroelektronika, edited by T.V. Lukin, No. 5, p. 66, Sovetskaya Radio Publishing House, 1972.

USSR

UDC 621.791.763.1:669.7.018

CHAKALEV, A. A., Candidate of Technical Sciences, PODLESNYKH, V. G., Engineer,
ORLOV, B. D., Doctor of Technical Sciences and TSARYMOV, G. P., Engineer

"Some Problems of Selection of Spot Welding Modes for Light Alloys"

Moscow, Svarochnoye Proizvodstvo, No 4, Apr 72, pp 23-24.

Abstract: In this work, the process of spot welding is studied from the standpoint of plastic deformation of the metal when electrodes with spherical working surface are used. The role of plastic deformation of metal during spot welding is shown to be significant, determining the resistance of the process to the formation of various welding defects and the effectiveness of heating. A system of classification of light alloys based on plastic deformation resistance of the material under conditions of spot welding is suggested. A relationship is suggested for approximate estimation of certain mode parameters. Recommendations are given for the selection of types of welding machines.

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USSR

UDC: 621.391.2:519.27

KUZ'MIN, I. V., PODLESNYY, N. I., RUBANOV, V. G.

"One Method of Selecting the Optimum Set of Parameters for Testing to Determine the Operability of Complex Systems"

Radioelektronika Letatel'n. Apparatov [Aircraft Electronics - collection of works], No 3, Khar'kov Aviation Institute, 1971, pp28-33 (translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 3, 1972, Abstract No 3 A338, from the resume)

Translation: Problems of the selection of the optimal set of test parameters for determination of the operability of complex systems are studied. The method of selection of the number of test parameters is based on the criterion of maximum reliability of the test results. Cases of dependent and independent parameters are studied, with limitations placed on the testing time of the system tested. 1 figure; 5 tables; 6 biblio refs.

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Computers: Applications & Programming

USSR

UDC: 621.391.2:519.27

YEFIMOV, A. N., PODLESNYX, N. I., RUBANOV, V. G.

"Synthesis of an Optimal Algorithm for Interrogation of Sensors"

Radioelektronika Letatei'n. Apparatoi [Aircraft Electronics - collection of works], No 3, Khar'kov Aviation Institute, 1971, pp 10-19 (translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 3, 1972, Abstract No 3 A370 from the resume)

Translation: The problem of optimization of the sequence of interrogation of sensors which are sources of primary information, represented by stable Gaussian random processes, is solved. It is shown that the sequence of interrogation of sensors is not neutral from the point of view of the quantity of information produced concerning the state of the object. The determining factors in this respect are the time of interrogation of the sensor and the probability characteristics of the random processes. The method of dynamic programming is used to find the optimal procedure (based on maximum information obtained) for interrogation of sensors. 3 figures; 5 references.

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Controls

USSR

UDC 621.396.666

PODLESNYY, S. A.

"Analysis of the Phase-Frequency Characteristics of Combined Automatic Gain Control Systems"

Tonkiye magnitn. plenki, vychisl. tekhn. i radiotekhn. T. 1 -- V sb. (Thin Magnetic Films, Computer Engineering and Radio Engineering, Vol 1 -- collection of works), Krasnoyarsk, 1970, pp 76-81 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4D32).

Translation: The phase-frequency characteristic of a combined automatic gain control with a hyperbolic characteristic of the controlled cascade is studied. Under the defined conditions this automatic gain control permits use of a common line circuit for stabilizing the output voltage level. The bibliography has 3 entries.

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Acc. Nr:

AP0049792Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

4R 073

101747r Modification of poly(vinyl chloride) fibers by alkyl-chlorosilanes. Vol'f, L. A.; Besprozvannykh, A.; Pidleskaya, N. K.; Klimenko, I. B.; Sheikunov, N. G.; Grachev, V. M. (USSR). Khim. Volokno 1970, (11), 76-7 (Russ.). Poly(vinyl chloride) (I) fibers were given water repellency by dehydrochlorination in the presence of FeCl_3 or diazoaminobenzene (II) catalyst followed by treating with Me_2SiCl (III), Me_3SiCl (IV), or MeSiCl_2 (V) to give modified I having increasing Si content with increasing double bond content and amt. of Cl in the silanes. I fibers were dehydrochlorinated in the free state with 6% II and alc. by heating 13-20 hr at 90-100° or in the fixed state at 130° for 10-18 hr with II or 0.5-1 hr with 20% FeCl_3 soln. After removing from the catalyst bath (with bath ratio 40) and drying to 3-7% catalyst add-on, the fibers were impregnated with the silanes, e.g. with a bath contg. 2-10% V (bath ratio 30) for 10-15 min at 20°; heated in air 2-5 hr at 90-130°; extd. for 1 day with benzene, and washed 5 times with H_2O or 1.5 times with steam to give I with 0.2-2% Si. Si content increased with increasing silane concn. in the bath, temp., and length of treatment. Although V gave the highest Si content, V gave the best water repellency as detd. by contact angle measurements. Si addn. to I was by Si-O-C bonds as well as by Si-C bonds.

BCJR

REEL/FRAME
19801714

1/2 020 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--ELECTROREDUCTION OF NITROBENZENE STUDIED BY THE ROTATING DISK RING
ELECTRODE METHOD -U-
AUTHOR-(02)-NEKKASOV, L.N., PODLIRNER, B.G.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMA 1970, 6(2) 218-22

DATE PUBLISHED-----70

P
SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTROLYTIC REDUCTION, NITROBENZENE, GOLD, ELECTRODE, CATHODE
POLARIZATION, SURFACE ACTIVE AGENT, FREE RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0459

STEP NO--0R/0354/70/006/002/0218/0222

CIRC ACCESSION NO--AP0107065

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0107065

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CATHODIC REDN. WAS STUDIED OF
AQ. 10 PRIME NEGATIVE3 M PHNO SUB2 SOLN. ON A Au AMALGAM DISK RING
ELECTRODE IN THE PRESENCE OF 0.5 M KOH, WITH OR WITHOUT ADDN. OF CAMPHOR
AS SURFACE ACTIVE SUBSTANCE. POLARIZATION CURVES OF PHNO SUB2 REDN. AND
THE CURVES OF THE YIELDS OF ANION RADICALS AND PHNHOH VS. DISK POTENTIAL
ARE PRESENTED. IN THE PRESENCE OF CAMPHOR AT THE POTENTIAL OF THE
SINGLE ELECTRON WAVE ON DISK, THE 2ND WAVE IS ABSENT ON RING AND THE
YIELD OF ANION RADICALS IS 100PERCENT; IN ABSENCE OF CAMPHOR, THIS YIELD
IS LOWER. IN THE RANGE OF THE 2ND WAVE POTENTIAL (-1.05 V) ON THE DISK,
THE YIELD OF ANION RADICALS GRADUALLY DECREASES TO 0 WITH THE INCREASE
OF THE CATHODIC POLARIZATION, WHILE THE YIELD OF PHNHOH INCREASES. THE
DEPENDENCE OF THE ANION RADICAL YIELD, WHICH IS MAX. AT PH 11, AND OF
THE RATE CONST. OF PHNHOH FORMATION FROM THE REDN. OF FREE RADICALS, ON
SOLN. PH IS ALSO DISCUSSED.

UNCLASSIFIED

USSR

UDC 615.28.099

VOYTENKO, G. A., and PODLINAYAYEVA, M. YE., Kiev Institute of Sanitary Works and Medical Society

"Toxicity and Anticholinesterase Action of Some Pesticides - Derivatives of N-Methyl and N-Phenylcarbamic Acid"

Moscow, Farmakologiya i Toksikologiya, Vol 35, No 3, May/Jun 72, pp 356-360

Abstract: Tests were carried out using animals and in vitro. Animal tests were made with aqueous emulsions of mezurol, sevin and unden in polyethylene glycol. Solutions of carbin were prepared from 11.8% emulsions in a light oil and emulsifier. In vitro tests show that the derivatives of N-methyl and N-phenylcarbamic acid possess anticholinesterase activity. I_{50} for horse serum cholinesterase was as follows: mezurol 5×10^{-6} M, dicresyl 7×10^{-5} M, unden 2.3×10^{-4} M and carbin 6×10^{-4} M. DL_{50} for white mice was 33.6, 271, 100 and 322 mg/kg respectively. The Michaelis constant for the interaction of carbamates with acetylcholinesterase in rat brains was 0.634×10^{-7} M for sevin, 0.407×10^{-7} M for mezurol, 0.845×10^{-7} M for unden and dicresyl and 2.91×10^{-7} M for carbin. Depression of acetylcholinesterase activity is shown by unden, dicresyl, and particularly by mezurol and sevin, but essentially is not shown by carbin. Animal experiments show that sevin and 1/2

USSR

VOYTENKO, G. A., and PODLINYAYEVA, M. YE., Farmakologiya i Toksikologiya,
Vol 35, No 3 May/Jun 72, pp 356-360

mezurol depress the cholinesterase activity of the blood to a greater
extent than in the brain.

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USSR

P UDC: 621.396.67.012.12.095.111

VAYNER, Yu. A., VAYSBERG, A. I., LEONT'YEV, V. A., PODLIPAL'IN, V. I.

"On Changing the Radiation Pattern in the Horizontal Plane for Overhead Antennas"

Tr. Novosib. elektrotekhn. in-ta (Works of the Novosibirsk Electrical Engineering Institute), 1970, vyp. 2, kn. 1, pp 18-22 (from RZh-Radiotekhnika, No 6, Jun 70, Abstract No 6B5)

Translation: The authors consider the effect of the mirror image of an antenna on its radiation pattern above the plane of the uniform earth, and the errors introduced by this image in measurements of the radiation pattern. It is shown that distortions in the principal maximum may be slight; however, the side lobes may be subjected to considerable interference distortions since the amplitudes of the side lobes in the directional patterns of the forward and reflected beams are approximately identical. Therefore antennas should be raised to a sufficient height in measuring the level of the side lobes under free-space conditions, and the antenna and observation point should be separated by a known distance when measuring this level where the ground is present. Two illustrations, bibliography of one title. N. S.

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USSR

UDC: 577.4

LYUBCHENKO, G. G., PODLIPENSKIY, V. S.

"Normal Single-Valued Binary Tables and an Algebra for Transforming Them"

Pribory i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Automation Devices and Systems. Republic Interdepartmental Scientific and Technical Collection), 1971, vyp. 20, pp 79-84 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V354)

[No abstract]

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USSR

UDC: 577.4

LYUBCHENKO, G. G., PODLIPENSKIY, V. S.

"Concerning Incomplete Tables of Functions of the Algebra of Logic, and One of Their Applications in Automation"

Pribory i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sh. (Automation Devices and Systems. Republic Interdepartmental Scientific and Technical Collection), 1971, vyp. 20, pp 74-79 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V355)

[No abstract]

1/1

USSR

UIC: 621-373-444-1

P
BODLEEVSKY, V. V., KHOROSEYEV, V. M., Tomsk Institute of Radio Electronics and
the Electronics Industry

"A Transistorized Generator"

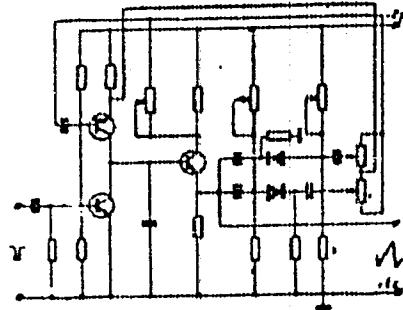
Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Novyye Znaki, No 6,
1970, p 31, patent No 262155, filed 11 Sep 67

Abstract: This Author's Certificate introduces a transistorized sawtooth voltage generator with arbitrary nonlinearity containing two series-connected transistors of different conductivity types, one of them acting as a switch and the other as a current stabilizing stage. Also incorporated in the device are a time-mark capacitor and a split-load amplifier with collector tied to the base of the current stabilizing transistor through a series-connected variable resistor and capacitor. As a distinguishing feature of the patent, the generator is designed for continuous and independent control of the shape of the beginning and end of the working section of the sawtooth voltage. Blocking capacitors and two adjustable diode limiters are connected between the amplifier emitter and the current stabilizing stage. The diode limiters are connected to the sliding contacts of two parallel-connected variable resistors which are connected to the base and emitter of the current stabilizing transistor.

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USSR

PODLIPENSKIY, V. V. and KHOROSHAYEV, V. M., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, 1970, p 31, patent No 262455, filed 11 Sep 67



2/2

USSR

UDC: 621.373.531.3(088.3)

PODILPEWSKIY, V. V., KHOROSHAYEV, V. M., Tomsk Institute of Radio Electronics and the Electronics Industry

"A Transistorized Oscillator"

USSR Author's Certificate No 262155, filed 11 Sep 67, published 3 Jun 70
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11G197 P)

Translation: This Author's Certificate introduces a sawtooth voltage oscillator with arbitrary nonlinearity which contains two series-connected transistors of opposite conductivity types, one of them acting as a key, and the other acting as a current-stabilizing stage. The oscillator also contains a time-setting capacitor and an amplifier with divided load, the collector being connected through a series circuit consisting of a variable resistor and a capacitor to the base of the current-stabilizing transistor. To provide continuous and independent control of the shape of the beginning and end of the working section of the sawtooth voltage, isolating capacitors and two controlled diode limiters are connected between the emitter of the amplifier and the current-stabilizing stage. These limiters are connected to the slide wires of two variable resistors connected in parallel to the base and emitter of the current-stabilizing transistor.

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1/2 016

UNCLASSIFIED

PROCESSING DATE--16OCT70

TITLE--COADSORPTION OF METHANOL AND BROMIDE ANIONS ON A PLATINIZED
PLATINUM ELECTRODE -U-

AUTHOR--(03)-POLOVCHENKO, B.I., KAZARINOV, V.YE., STENIN, V.F.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(2), 252-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ADSORPTION, METHANOL, BROMIDE, PLATINUM ELECTRODE, CARBON
ISOTOPE, CHEMISORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0197

CIRC ACCESSION NO--AP0114583

STEP NO--UR/0364/70/006/002/0252/0256

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--16 OCT 70

CIRC ACCESSION NO--AP0114583

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROCESS OF SIMULTANEOUS ADSORPTION OF BR PRIME NEGATIVE AND MECH ON A PT PLATINIZED ELECTRODE, POLARIZED ANODICALLY, WAS INVESTIGATED. THE POSSIBILITY OF DISLODGING THE CHEMISORBED SUBSTANCE BY BR PRIME NEGATIVE WAS CHECKED BY USING THE TRACER ATOM METHOD (PRIME¹⁴ C IN MEOH). A STRONG, PRACTICALLY IRREVERSIBLE BONDING OF THE MEOH CHEMISORPTION PRODUCT WITH THE PT WAS OBSERVED AS WELL AS A MARKED INHIBITION OF THE ADSORPTION PROCESS IN THE PRESENCE OF BR PRIME NEGATIVE. IN THE CASE OF LIMITING COVERAGE OF THE ELECTRODE SURFACE WITH ORG. PARTICLES, THE RATE OF BR PRIME NEGATIVE ANIONS EXCHANGE INCREASED SIGNIFICANTLY, GIVING EVIDENCE OF THE WEAKENING OF THE ANION BOND WITH PT SURFACE IN THE PRESENCE OF CHEMISORBED ORG. PARTICLES. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA. MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 8.74

PODLOVCHENKO, R. I.**"On a Set of Operators Realized by Diagrams Over a Memory"**

V sb. Probl. kibernetiki (Problems of Cybernetics--collection of works), vyp. 24, Moscow, "Nauka", 1971, pp 91-108 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V524)

Translation: A diagram on a memory is defined as a finite graph (in the general case of variable construction) whose vertices are provided with operators and predicates on a memory (the functional "loads" of a vertex are also variable in the general case). Each diagram is put into correspondence with its operator. A list of operations is determined by which new operators are synthesized from the operators and predicates. Sets of operators and predicates are given, and diagrams constructed from the operators and predicates of a given set are considered. Within the set of such diagrams, classes are sought whose diagrams realize operators which are the result of application in a finite number of given operations to operators and predicates of the given sets. The principal result found in the work is the following: an operator realized by a diagram of stationary form may be derived from operators and predicates used in the con-

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USSR

UDC: 8.74

PODLOVCHENKO, R. I.

"On Functions Computed by Stationary Diagrams Over a Memory, and on the Interpretation of the Functions"

V sb. Vopr. kibernetiki (Problems of Cybernetics--collection of works), vyp. 24, Moscow, "Nauka", 1971, pp 109-121 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V525)

Translation: An Ω' -operator is that type of operator over a memory Ω where the latter, gathering information on the state of only a finite segment Ω' of memory Ω , changes the state of this segment of the memory alone; the Ω' -predicate classifies the states of the entire memory Ω with respect to the state of its final segment Ω' . Put into correspondence with each Ω', Ω' -operator are the functions computed by the operator; put into correspondence with each Ω' -predicate is the function generated by the predicate. Stationary diagrams constructed from Ω', Ω' -operators and Ω' -predicates are considered as well as those which realize operators of the Ω', Ω' -operator type. The functions computed by the latter are represented in terms of functions put into correspondence with the operators and predicates from which the diagram is constructed. Problems of

1/2

- 35 -

USSR

UDC 51:621.391

PODLOVCHENKO, R. I.

"Diagrams of Algorithms Defined in Situations"

Probl. Kibernetika, [Problems of Cybernetics], No 23, Moscow, Nauka Press, 1970,
pp 213-246, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971,
Abstract No. 5V466 by the author).

Translation: The concept of the situation, lying at the basis of all constructions in this work, is introduced as an undefined object and may be interpreted differently from the concept of the status of memory. If by situation we mean the status of memory, we produce a prepared apparatus of the main concepts of programming and a number of results which can be used in the area of programming. The concept of the plan suggested in this work is a generalization of the concept of the graphic plan of an algorithm. The classification of plans performed in this work produces a series of classes imbedded in each other, establishing sufficient characteristics for transition from a plan in one class to the equivalent plan in another (imbedded) class.

1/1

USSR

Pulse Technique

UDC: 621.374.33(088.11)

BOKHUA, A. V., SPARSIASHVILI, P. D., KORENETSKIV, G. B., POULUBNYY, G. I.,
Special Design Office of Tachometry

"A Time Interval Expander"

USSR Author's Certificate No 270795, filed 7 Mar 68, published 11 Aug 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 40326 P)

Translation: This Author's Certificate introduces a device for stretching the time interval between two pulses. The device contains two Kipp oscillators and circuits for isolating the leading and trailing edges of pulses. To improve the accuracy of extension of the time interval between pulses, the outputs of the Kipp oscillators are connected to the inputs of an AND circuit whose output is connected to the circuit for isolating the trailing edge of the pulses, and to the input of an OR circuit whose output is connected to the input of the circuit for isolating the leading edge of the pulses.

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"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R002202430007-1

442 013
TITLE--ROTATIONAL RELAXATION OF DIATOMIC MOLECULES WITH A CALCULATION OF
THE INTERACTION OF ELECTRONIC STATES -U-
AUTHOR--(02)-MNATSAKANYAN, A.KH., PODLUBNYY, L.I.

COUNTRY OF INFO--USSR

SOURCE--TEPLOFIZ. VYS. TEMP. 1970, 8(1), 33-9

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--EXCITED STATE, DIATOMIC MOLECULE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0545

CIRC ACCESSION NO--AP0121217

UNCLASSIFIED

PROCESSING DATE--23OCT70
STEP NO--UR/0294/70/003/001/0033/0039

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R002202430007-1"

2/2 013

CIRC ACCESSION NO--AP0121217 UNCLASSIFIED PROCESSING DATE--23OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETICS OF THE ROTATIONAL
RELAXATION OF THE EXCITED ELECTRONIC STATE OF DIAT. MOLES. IS STUDIED.
PERTURBATION OF THE ROTATIONAL LEVELS CAUSED BY INTERACTION WITH
ELECTRONIC STATES IS TAKEN INTO ACCOUNT. COMPARISON IS MADE WITH THE
ROTATIONAL TEMP. OF N SUB2 PRIME POSITIVE MOLE. IN THE B PRIMER SIGMA
SUBU PRIME POSITIVE STATE IN THE NONEQUIL. ZONE BEHIND THE SHOCK WAVE
FRONT IN N. FACILITY: INST. VYS. TEMP., MOSCOW, USSR.

UNCLASSIFIED

"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R002202430007-1

TITLE--RADIATION TREATMENT OF LARNGEAL HEMANGIOMA IN CHILDREN -U-
UNCLASSIFIED
PROCESSING DATE--16 OCT 70

AUTHOR--PODLYASHCHUK, YE.L.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OTORINOLARINGOLOGII, 1970, NR 3, PP 76-79
DATE PUBLISHED----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUMOR, PEDIATRICS, OTOLARYNGOLOGY, X RAY TECHNIQUE, RADIO
THERAPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1248

CIRC ACCESSION NO--AP0107724

UNCLASSIFIED

STEP NO--UR/0607/70/000/003/0076/0079

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R002202430007-1"

172 019

CIRC ACCESSION NO--APO107724 UNCLASSIFIED PROCESSING DATE--16OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DEALS WITH THE PROBLEM
OF THE DIFFERENCES OF CLINICAL MANIFESTATIONS OF LARYNGEAL HEMANGIOMA IN
ADULTS AND CHILDREN. IN CHILDREN OF EARLY AGE WITH LARYNGEAL ANG OMKA IN
THE PRESENCE OF VITAL INDICATIONS RAPID GROWTH OF THE TUMOR,
SUFFOCATION, PAROXYSMS OF ASPHYXIAL RADIATION TREATMENT SHOULD BE
EMPLOYED. IN THE REFERRED TO LOCALIZATION OF HEMANGIOMA THE TECHNIQUE
OF X RAY THERAPY IS DESCRIBED. FACILITY:
RENTGENOTERAPEVTICHESKOGO OTO. MOSKOVSKOGO N-I RENTGENORADIOLOGICHESKOGO
INSTITUTA MINISTERSTVA ZDRAVYUH KRANENIYA RSFSR.

UNCLASSIFIED

USSR

NIKOLAYEVSKIY, L. S., PODMOSHENSKIY, I. V.

UDC: 537.53

"Precision Measurement of the Continuous Emission of a Nitrogen Plasma"

Leningrad, Optika i Spektroskopiya, Vol 33, No 3, Sep 72, pp 440-443

Abstract: The coefficients of continuous absorption of a nitrogen plasma are measured in the spectral region of $15\ 000-22\ 000\ \text{cm}^{-1}$ for two pressures 0.50 and 0.75 atmosphere, at respective currents of 700 and 800 A, and temperatures of 19 000 and 20 000 K. The absorption coefficients were determined from the pulse discharge emission. The spectrum was photographically registered. The relative error of the measurements was 10%. It is shown that the experimental data differ from theory by no more than 15%. The data given in this paper can be utilized in measuring electron concentration with respect to continuous emission of a nitrogen plasma, and also in determining the pressure in plasma sources.

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P
USSR

UDC 533.9.15

GORSHKOVA, L. D., GORSHKOV, V. A., and RODNIOSHENOKY, I. V.

"Determining the Radiation Power of a Plasma from Nonconducting Materials"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol. 12, No. 1, Jan 1970,
pp 8-12

Abstract: The basic difficulty in the way of obtaining quantitative data concerning the radiation of a low-temperature plasma from nonconducting materials is getting a plasma with a controlled chemical composition, pressure, and temperature. A more promising plasma source is a powerful discharge pressed against a dielectric wall by a magnetic field specially developed for this purpose. The paper discusses this better method of producing a plasma, known as the H-pressed discharge method. It begins with an examination of the correspondence between the atomic chemical state of the plasma and the vaporized nonconducting material against which the discharge is pressed. Under the condition of the H-pressed discharge method the plasma is characterized by a quasi-stationary, stable radiation; temperature uniformity along the discharge axis; and known values of temperature

USSR

GORSHKOVA, L. D., et al, Zhurnal Prikladnoy Spektroskopii, Vol. 12, No. 1, Jan 1970, pp 8-12

and pressure. Hence, the use of such a source for the study and measurement of the radiative power from a plasma of various materials is the most promising. The authors describe measurements they made of the radiating capability of such plasmas; their method was the ballistic method, in which a vacuum inertial thermocouple combined with a mirror galvanometer or a photoelectric amplifier is used as the radiation energy sensor.

2/2

USSR

UDC 535.231.4.07:535.89

BAYUNOV, V. I., DEMIDOV, M. I., OGURTSOVA, N. N., Candidate of Technical Sciences, PODMOSHENSKIY, I. V., Candidate of Technical Sciences, SMIRNOV, V. L., SHELEVINA, V. M.

"An Installation for the Measurement of High Brightness Temperatures"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 12, Dec 70,
pp 24-27

Abstract: An installation for the measurement of brightness temperatures in the range of 6,000-100,000 ° K, with a time resolution of up to 3×10^{-8} seconds, is described. This is the IF-88 installation, designed and constructed by I. V. Bolotnikov and I. V. Peysakhson. Determination of the temperature is based upon successive comparison of the brightness of the source under investigation and that of Standard EV-45, the measurement being conducted simultaneously in two wavelength intervals, isolated by interference filters from a spectral range of 220-400 nanometers.

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USSR

GOLUBEV,
Leningrad

UDC: 535.89

OGURTSOVA, N. N., PODOSHINSKIY, I. V., ROGOVTSEV, I. N.,

"Experimental Investigation of the Instability of a High-Current Dis-

charge in an Open Tube"

Moscow, Teplofizika Vysokikh Temperatur, Vol 10, No 4, Jul/Aug 72, pp
724-727

Abstract: The authors study the instability of a high-current discharge with vaporizable wall in tubes 50 mm in diameter and 100-400 mm long open to the atmosphere at both ends. A capacitor bank was used to produce a current pulse of 100-250 kA with a duration of 200 μ s. High-speed motion picture photography was used to investigate the space-time development of the discharge. The voltage gradient of the electric field in the plasma column was oscillographically measured by means of E-probes, and the diameter of the current channel was estimated from the erosion spot. The effect of tube length and current amplitude on discharge stability was also determined. The results of the measurements show satisfactory mutual agreement, indicating hydromagnetic instability of a high-current discharge in open tubes.

"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R002202430007-1

TITLE--^{V23} DETERMINATION OF THE RADIATIVE CAPACITY OF A PLASMA OBTAINED FROM
NONCONDUCTING MATERIALS -U-
AUTHOR-(03)-GURSHKOVA, L.D., GURSHKOV, V.A., POMOSHNIKOV, L.V.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL PRIKLADNOI SPEKTRSKOPII, VOL. 12, JAN. 1970, p. 9-12
DATE PUBLISHED---JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--DIELECTRIC MATERIAL, ELECTRIC DISCHARGE, DISCHARGE PLASMA,
PLASMA RADIATION, PLASMA MEASUREMENT, OPTIC BRIGHTNESS

CONTROL MARKING--NU RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1978/1215

CIRC ACCESSION NU--AP0046138

UNCLASSIFIED

STEP NO--UR/0368/70/012/00070008/0012

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R002202430007-1"

272 033

CIRC ACCESSION NG--AP0046138

UNCLASSIFIED

PROCESSING DATE--09OCT70

ABSTRACT/EXTRACT--(U) GP-0-
PRODUCTION OF PLASMAS FROM ORGANIC GLASS, POLYETHYLENE, QUARTZ AND OTHER
NONCONDUCTING MATERIALS BY USING PULSED DISCHARGES IN THE PRESENCE OF A
MAGNETIC FIELD. STEADY AND HOMOGENEOUS RADIATION WAS OBTAINED ALONG THE
DISCHARGE AXIS WHEN THE DURATION OF THE PULSE WAS ROUGHLY 1 MU SEC. IT
IS ALSO FOUND THAT THE ATOMIC COMPOSITION OF THE FLAME CORRESPONDS TO
THE CHEMICAL COMPOSITION OF THE MATERIAL USED. A BALLISTIC TECHNIQUE
AND A VACUUM THERMOCOUPLE WERE USED IN MEASURING THE INTEGRAL PLASMA
BRIGHTNESS IN THE 200 TO 2000 NM RANGE. NUMERICAL VALUES OF PLASMA
BRIGHTNESS AT TEMPERATURES FROM 12,000 TO 16,000 DEG K ARE GIVEN FOR A
GROUP OF NONCONDUCTING MATERIALS.

UNCLASSIFIED

USSR

UDC 577.4

PODNIYEKS, K. M.

"Stable Expansions of Stochastic Matrices"

V sb. Vopr. sinteza konechn. avtomatov (Problems of Synthesizing Finite Automata -- collection of works), Riga, Zinatne Press, 1972, pp 75-78 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V422)

No abstract

1/1

I/2 038 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SOME CARDIOVASCULAR CHANGES IN FEMALE TELEGRAPH OPERATORS OF THE
CENTRAL TELEGRAPH OFFICE IN THE COURSE OF THEIR WORK DAY -U-
AUTHOR--(02)-PODUBA, YE.V., PROSEKIN, A.M.

P

COUNTRY OF INFO--USSR

SOURCE--GIGIYENA TRUDA I PROFESSIONAL'NYYE ZABOLEVANIYA, 1970, NR 6, PP
4-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HUMAN FACTORS ENGINEERING, INDUSTRIAL HYGIENE, SANITARY
ENGINEERING, PHYSIOLOGIC FATIGUE, TELEGRAPH SYSTEM, HYPERTENSION,
CARDIOVASCULAR SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0+19

STEP NO--UR/0391/70/000/006/004/0007

CIRC ACCESSION NO--AP0129646

UNCLASSIFIED

2/2 038

CIRC ACCESSION NO--AP0129646

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COMPLEX SET OF PHYSIOLOGICAL AND HYGIENIC INVESTIGATIONS INTO THE WORKING CONDITIONS OF FEMALE TELEGRAPH OPERATORS AT THE MOSCOW CENTRAL TELEGRAPH OFFICE WAS CARRIED OUT. THE NATURE OF PHYSIOLOGICAL SHIFTS WAS DETERMINED IN THE COURSE OF WORKING DAY IN PRACTICALLY HEALTHY OPERATORS. THE HYPERTENSIVE EFFECT OF THE WORK EFFORTS WAS ASCERTAINED AND CORRELATION BETWEEN AVERAGE DYNAMIC TENSION VALUES AND THE RATE OF THE PULSE WAVE PROPAGATION, AS WELL AS A RELATION OF THE REACTION TIME WITH THE MEAN DYNAMIC PRESSURE VALUE WERE BROUGHT OUT. AN INCREASE IN THE INCIDENCE OF HYPERTENSION AMONG FEMALE TELEGRAPH OPERATORS OF THE CENTRAL TELEGRAPH OFFICE IS CONDITIONED BY THE DERANGEMENT OF COMPENSATORY POSSIBILITIES OF THE ORGANISM OWING TO THE ARRHYTHMIC AND STRAINED NATURE OF THE WORK. RECOMMENDATIONS RESPECTIVE CHANGES OF THE SCHEDULE OF WORK AND ITS DURATION (AN INCREASE OF THE INTERSHIFT INTERVAL, REDUCTION OF THE WORK HOURS DOWN TO 6) WERE PROPOSED AND ACCEPTED.

FACILITY: INSTITUT GIGITENY TRUDA I
PROFZABLEVANIY AMN SSSR.

UNCLASSIFIED

UDC 622.24.053.6

USSR

HEL'NIKOV, V. I., ZHIDOVSEV, N. A., LEVCHENKO, A. T., STARKOV, V. N.,
DEMCHUK, N. N., KOVAL'CHUK, P. P., and PODOLANTY, I. F.

"Test Results of a Wave Reflector"

Moscow, Bureniye -- Referativnyy Nauchno-Tekhnicheskiy Sbornik (Drilling -- Scientific and Technical Reference Collection of Works), No 1, 1973, pp 7-11

Abstract: Results are presented of tests conducted on a special arrangement of the bottom part of a drilling column, which possesses the capacity of reflecting the vibratory energy generated by the cutting bit. This arrangement, which constitutes an independent structure, is called a superorbit wave reflector. The basic configurations of the design and operation of the reflector are described. The existence of the theoretically calculated resonance regime and entiresonance regime was confirmed experimentally. Results of operational tests demonstrated an improvement of drilling parameters in hard rock as a result of application of the reflector. 3 figures, 1 table, 2 references.

1/1

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1/3 025 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--INFLUENCE OF ANION COMPOSITION AND PH OF ELECTROLYTES ON THE
ADSORPTION AND PROTECTIVE ACTION OF SOME INHIBITORS OF IRON CORROSION.
AUTHOR--(02)-PODOBAYEV, N.I., LUBENSKIY, A.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970 43(2) 354-61

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MFCH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--IRON CORROSION, ELECTROLYTE, LOW CARBON STEEL, CORROSION
INHIBITOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FRAME--1992/0773

STEP NO--UR/0080/70/043/002/0354/0361

CIRC ACCESSION NO--A00111960

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/3 025

CIRC ACCESSION NO--AP0111960
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF DIFFERENT ANIONS ON THE CORROSION RATE, STEADY STATE POTENTIAL, AND DOUBLE LAYER CAPACITANCE OF FE (MILD STEEL OR ARMCO) WAS SYSTEMATICALLY INVESTIGATED IN O OR H SATD. ELECTROLYTES OVER A WIDE PH RANGE. THE INFLUENCE OF ANIONS ON THE ADSORPTION AND INHIBITIVE PROPERTIES OF FE CORROSION RETARDERS IN ACIDIC OR NEUTRAL MEDIA WAS EVALUATED. THE ELECTROLYTES CONTAINED VA PRIME POSITIVE AND CL PRIME NEGATIVE, CLO SUB4 PRIME NEGATIVE, SO SUB4 PRIME2 NEGATIVE, F PRIME NEGATIVE, ACO PRIME NEGATIVE, AND HCO SUB2 PRIME NEGATIVE. THE EXPTL. RESULTS WERE ANALYZED BASED ON MODERN THEORETICAL CONCEPTS. IT IS PRESUMED THAT ANIONS PLAY A PREDOMINANT ROLE IN THE RATHER COMPLICATED ELECTRODE PROCESSES. THE CORROSION RATE OF FE UNDER H, O, OR MIXED H-O DEPOLARIZATION CONDITIONS IS STRONGLY AFFECTED BY ANION COMPN. IN ACIDIC MEDIA, WHERE INSOL. FE HYDROXIDES ARE NO PRESENT, THE INHIBITIVE EFFECT OF ANIONS INCREASES WITH THE INCREASE OF THEIR SURFACE ACTIVITY. CORROSION RATE DECREASES IN THE ORDER: HCO SUB2 PRIME NEGATIVE GREATER THAN ACO PRIME NEGATIVE GREATER THAN SO SUB4 PRIME2 NEGATIVE GREATER THAN IH SUB2 F SUB21 GREATER THAN CLO SUB4PRIME NEGATIVE GREATER THAN CL PRIME NEGATIVE. IN SLIGHTLY ALK. SOLNS. THE RESP. ORDER IS: F PRIME NEGATIVE GREATER THAN CL PRIME NEGATIVE, CLO SUB4 PRIME NEGATIVE GREATER THAN SO SUB4 PRIME2 NEGATIVE, HCO SUB2 PRIME NEGATIVE, ACO.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02 OCT 70

3/3 025
CIRC ACCESSION NO--APO111960
ABSTRACT/EXTRACT--THE DEPASSIVATION EFFECT OF ANIONS IN WEAK ALK. SOLNS.
DECREASES (WITH THE EXCEPTION OF F PRIME NEGATIVE) WITH A DECREASE OF
THEIR SURFACE ACTIVITY: F PRIME NEGATIVE GREATER THAN CL PRIME NEGATIVE
GREATER THAN CLO PRIME NEGATIVE GREATER THAN S₂ SUB4 PRIME NEGATIVE
GREATER THAN HCO₃ SUB2 PRIME NEGATIVE. ACQ PRIME NEGATIVE OBVIOUSLY
ENHANCES THE DEHYDRATION OF THE HYDROXIDES ON THE FE SURFACE AND LEADS
TO PASSIVATION. IN THE PRESENCE OF O THE INFLUENCE OF ACQ PRIME
NEGATIVE ON THE FORMATION OF A PROTECTIVE OXIDE LAYER ON THE FE SURFACE
BECOMES MORE PRONOUNCED. UNDER CERTAIN CONDITIONS, O CAUSES A
PRONOUNCED INCREASE OF THE DOUBLE LAYER CAPACITANCE OF FE. THE
PHENOMENON IS ATTRIBUTED TO THE ACCUMULATION OF A STRONGLY POLAR
INTERMEDIATE O REDN. PRODUCT ON THE METAL SURFACE, DUE TO THE RETARDING
OF ONE OF THE O REDN. STAGES BY ANIONS.

UNCLASSIFIED

172 U24 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SOME ORGANIC COMPOUNDS WITH ENTYLENIC AND ACETYLENIC BONDS TESTED
AS INHIBITORS FOR THE ACID CORROSION OF STEEL -U-
AUTHOR-(02)-PLUBAYEV, N.I., VUSKRESENSKIY, A.G.

COUNTRY OF INFO--LSSR

SOURCE--ZP. PPIKL. KHM. (LENINGRAD) 1970, 43(4), 834-8

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS, MECH., IND., CIVIL AND MARINE ENG.

TOPIC TAGS--ALDEHYDE, HYDROXYL RADICAL, ETHYLENE, ACETYLENE HYDROCARBONS,

ACID CORROSION, STEEL CORROSION, CORROSION INHIBITOR, IRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1945

STEP NO--UR/C080/70/043/004/0834/0838

CIRC ACCESSION NO--APL132206

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--2030W70

272 024
CIRC ACCESSION NO--APO132209

ABSTRACT/EXTRACT--(U) ~~REF ID: A6735421Y~~ ABSTRACT. DIALYL (I), CROTONAL ALDEHYDE (II),
HE SUB2 C(=O)C(CH3)2 CH2 (III), CH SUB2:CH2 TRIPLE BOND
CCH SUB2 CH SUB2 CH SUB2 CH (IV), DIPROPARGYL (VI), AND CH TRIPLE BOND
CCH SUB2 CH SUB2 CH SUB2 CH (VII) WERE TESTED AS COMPOSITION INHIBITORS
FOR STEEL ST. 2 IN A. HCl. THE EXPT. AND TEST EVALUATION TECHNIQUES
WERE AS DESCRIBED EARLIER (CA 67:35421Y). THE ADDITIVE CONC. WAS 1000
IN ALL THE EXPTS. ELEC. MEASUREMENTS SHOWED THAT ALL THE COMPOS.
STUDIED INHIBITED THE CATHODIC REACTIONS. THE EFFECTS ARE DISCUSSED IN
TERMS OF A MECHANISM INVOLVING THE CATALYTIC ACTION OF THE PPTM2
POSITIVE AND FE METAL. FACILITY: MOSK. GOSK. PEGASO. INSE. IM.
LENINA, MOSCOW, USSR.

REF ID: A6735421Y

L/2 025
TITLE--INHIBITORS OF THE ACID CORROSION OF IRON STUDIED BY AN IMPEDANCE
METHOD -U-
AUTHOR-(03)-PODOBAYEV, N.I., DAVYDOVA, V.P., SALEM, R.R.
COUNTRY OF INFO--USSR
SOURCE--ZASHCH. METAL. 1970, 6(2), 235-6
DATE PUBLISHED-----70

PROCESSING DATE--04DEC70

P

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--METAL CORROSION, IRON ALLOY, STEEL, CORROSION INHIBITOR,
HYDROCHLORIC ACID, ELECTRIC IMPEDANCE, ACID CORROSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/1046

STEP NO--UR/0365/70/006/00270235/0236

CIRC ACCESSION NO--AP0138063
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138068
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ACTION OF ALDEHYDES, UNSATD.
ALCS. AND P, S, AND N CONTG. COMPOS. ON THE CORROSION OF ARMCO FE IN 1
AND 5N HCL AT 20 PLUS OR MINUS 10EGREE WAS STUDIED BY THE USE OF AN
A.-C. BRIDGE (400 Hz), IN A 10 MV POTENTIAL RANGE. THE INVESTIGATIONS
WERE CARRIED OUT IN H. THE RELATIVE CHANGES NC OF DIFFERENTIAL
CAPACITIES C, DEFINED AS NC EQUALS 100 (C SUB0 MINUS C1-C SUB0), HERE
COMPARED WITH THE COEFFS. OF PROTECTIVE ACTION OF INHIBITORS, EXPRESSED
BY Z EQUALS 100 (P SUB0 MINUS P)-P SUB0 WHERE P IS THE CORROSION RATE,
AND THE SUFFIX 0 REFERS TO THE VALUES WIHTOUT USE OF THE INHIBITOR. THE
COMPDs. INVESTIGATED ARE ADSORBED BY THE METAL AND ITS C DECREASES
WITHIN A WIDE POTENTIAL RANGE. THE MOST EFFECTIVE WERE 1,HEXYN, 3,OL
AND DIPROPARGYL METHYLCYCLOHEXYLPHOSPHONATE. THE LOWEST EFFECTIVENESS
WAS SHOWN BY THE S CONTG. COMPOS. FACILITY: MOSK. PEDAGOG.
INST. IM. LENINA, MOSCOW, USSR.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--NEW HIGH SPEED STOMATOLOGICAL APPARATUS AND SOME FEATURES SPECIFIC
TO THEIR USE -U-

AUTHOR--(03)-PODOBED, A., PEYZAN, R., YATSKOVETS, N.

COUNTRY OF INFO--USSR

SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 2, PP 75-78

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORAL DISEASE, MEDICAL APPARATUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1847

STEP NO--UR/0511/70/049/002/0075/0078

CIRC ACCESSION NO--AP0101892

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0101892

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SUMMARY, THE PAPER DISCUSSES THE DESIGNS OF NEW HIGH SPEED STOMATOLOGICAL APPARATUS. THE AUTHORS DESCRIBE THE MAIN TECHNICAL DATA AND THE ADVANTAGES OF UNIVERSAL STOMATOLOGICAL APPARATUS IN COMPARISON WITH SIMILAR EQUIPMENT MANUFACTURED PREVIOUSLY BY THE SOVIET INDUSTRY AND FOREIGN MODELS. INFORMATION IS GIVEN OF THE FEATURESPECULIAR TO THE OPERATION OF THE REFERRED TO EQUIPMENT AND MAINTENANCE FOR LONG TERM WORK.

UNCLASSIFIED

USSR

UDC: 681.3.06;51

PODOBED, V. V., PODOBED, M. V., SAPOZHKOY, K. A.

"Organizing the Process of Designing a System for Automatic Control of a Dynamic Object"

Nauch. tr. Kursk. politekhn. in-t (Scientific Works. Kursk Polytechnical Institute), 1971, sb. 1, ch. 2, pp 356-364 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V949)

Translation: The authors consider the structural-information scheme for the process of designing an automatic control system. The scheme includes the enumeration and sequence of the jobs to be carried out in automation, and references to some possible methods of carrying them out. The procedure is based on the assumption of optimality (in the sense of maximum economic effect) of the resultant solution (control computer scheme) for sequential execution of three main stages: the stage of mathematical formulation of the control job, the stage of synthesizing the algorithm for the control computer, and the stage of synthesizing the control computer diagram.

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- 66 -

USSR

DEC 615.373-07:616-003,725(C4V)

PODOBED, V. A., KAZAKOV, B. M., and KHARLIP, B. V.

"Dependence of Immunogenic Properties of Influenza Vaccine on Its Biological Activity"

Minsk, Zdravookhraneniye Belorussii, No 12, 1972, p 74

Abstract: Immunogenic properties of type A₂ and type B flu vaccines were examined in 1971 during inoculations of 69 watch factory workers. Vaccinations of type A₂ were biologically highly active; of type B, less active. Pronounced antibody increase (doubled or more) occurred in 65.4% of the type A₂ cases, but in only 47.7% of the type B cases. Biological activity of the virus was determined in chick embryos by the hemagglutination reaction. Immunogenic ability was indicated by antibody titers of paired sera in the hemagglutination inhibition test with 1% chicken erythrocytes. The average titer for type A₂ antibodies was 36.1 and for type B was 11.6 before vaccination; after inoculation it was 130 and 32.9 respectively. The dependence of immunogenic ability of vaccine upon its biological activity is evident. Increases in resistance among some nonvaccinated persons were noted.

1/1

USSR

UDC: 681.3.06:51

PODOBED, V. V., PODOBED, M. V., SAPOZHKOVA, K. A.

"Organizing the Process of Designing a System for Automatic Control of a Dynamic Object"

Nauch. tr. Kursk. politekhn. in-t (Scientific Works. Kursk Polytechnical Institute), 1971, sb. 1, ch. 2, pp 356-364 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V949)

Translation: The authors consider the structural-information scheme for the process of designing an automatic control system. The scheme includes the enumeration and sequence of the jobs to be carried out in automation, and references to some possible methods of carrying them out. The procedure is based on the assumption of optimality (in the sense of maximum economic effect) of the resultant solution (control computer scheme) for sequential execution of three main stages: the stage of mathematical formulation of the control job, the stage of synthesizing the algorithm for the control computer, and the stage of synthesizing the control computer diagram.

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USSR

UDC: 543.424

PODOBEDOV, V. B., PYNDYK, A. M., and STERIN, Kh. Ye.

"Fast Recording of Combination Light Dispersion Spectra in Liquids and Gases"

Moscow, Pribory i tekhnika eksperimenta, No 1, 1973, pp 190-193

Abstract: A multichannel device for obtaining combination dispersion spectra in the time of 10^{-5} to $3 \cdot 10^{-8}$ seconds is described in this paper. This rapidity of recording is made possible by the use of a pulsed excitation source of sufficient energy as well as an electron converter of limited amplification in the role of sensor. The converter permits simultaneous recording of separate spectral lines, thus providing simultaneous information over several channels. A block diagram of the device is given together with an explanation of its operation. Photographs of some of the spectra obtained are shown. The authors express their gratitude to V. P. Vinogradov for his assistance in building the equipment.

1/1

USSR

UDC: 533.6.07

GUR'YASHKIN, L. P., KRASIL'SHCHIKOV, A. P., PODOBIN, V. P.

"A Ballistic Wind Tunnel for Measuring the Drag of Models in Free Flight at Hypersonic Velocities"

Uch. zap. Tsentr. aerogidrodinam. in-ta (Scientific Notes of the Central Aerohydrodynamic Institute), 1970, 1, No 2, pp 111-114 (from RZh-Mekhanika, No 9, Sep 70, Abstract No 9B497)

Translation: The authors describe a ballistic wind tunnel and some of the experimental data obtained in this tunnel. The installation comprises three main elements: the wind tunnel ($M = 2.5-3.5$, total braking pressure up to 200 atmospheres), a pointer stand (caliber 14.5 mm, flight speed of the models up to $500-2,000$ m/s) and electron-optical instrumentation. The operation of the installation is based on shooting the model into the teeth of the supersonic flow in the tunnel. The unit permits achievement of Mach numbers of $1.5-15$, Reynolds numbers of 10^6-10^7 , and a stagnation temperature of up to $2,800^{\circ}\text{K}$. Data are given on the head drag coefficient of a conical model with generatrix discontinuity, and elliptical cones, as well as a relationship for development of the width of the turbulent kernel in the wake of a sphere (in the caliber range of $\delta = 30-3,500$, development of the relative width of the turbulent wake δ is approximated by the expression $\delta = 0.2084\delta^{0.5}$). B. I. Bakum.

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USSR

UDC 621.436-225.3-71.001.5

GINZBURGSKIY, L.L., PODOBUEV, YU.S., and RODIN, K.G.

"The Effect of Cooling Air on Aerodynamic Characteristics of Turbine Nozzle Rings"

Tr. Leningr. Politekhn. In-ta [Works of the Leningrad Polytechnic Institute], 1972, No 323, pp 51-54 (from Referativnyy Zhurnal, No 6, Jun 72. 49. Turbo-stroyeniye. Abstract No 6.49.124)

Translation: Gas turbines use only blades with cooling air outflow near the exit edge of the nozzle. The cooling air streams, outflowing from the orifices, affect the aerodynamic characteristics of the nozzle ring lattice. In order to investigate this effect, the Chair of Turbine Construction devised an experimental unit with a ring shaped lattice. A natural nozzle ring of a gas turbine was mounted on this unit. The flow velocity field behind the lattice was investigated according to the pitch and height of the blades when changing the relative flow rate of cooling air. The effect of the relative flow rate of cooling air on the efficiency of the turbine stage has to be defined later on more accurately by investigating the nozzle ring at real temperatures of gas and cooling air. Two illustr.

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172 009

UNCLASSIFIED

PROCESSING DATE--02OCT70
-U-

TITLE--REACTION OF N-ARYLSULFONYLQUINONIMINES WITH PHENOLS

AUTHOR--(02)-TITOV, YE.A., PODOBYEV, G.A.

P

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIK. 1970, 6(3) 544-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SULFONE, PHENOL, MOLECULAR STRUCTURE, IMINE, NAPHTHOL, PAPER
CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1410

STEP NO--UR/0368/70/006/003/0544/0549

CIRC ACCESSION NO--AP0112404

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112404

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF RC SUB6 H SUB4 SO SUB2 NHC SUB6 H SUB3 X(OH) 3,4 WITH PHENOLS (NAPHTHOLS) IN THE PRESENCE OF BF SUB3.ET SUB2 O OR ALCI SUB3 GAVE RC SUB6 H SUB4 SO SUB2 NHC SUB6 H SUB2 X(OH)R PRIME1 3,4,5 (1) IR, R PRIME1 AND X (GIVEN): H, 2,HYDROXY,1,NAPHTHYL, CL; H, 2,HYDROXY,1,NAPHTHYL, H; 4,ME, 2,HYDROXY,1,NAPHTHYL, H; 4,CL, 2,HYDROXY,1,NAPHTHYL, H; H, 4,HOC SUB6 H SUB4, H; H, 4,3,(HO)MEC SUB6H SUB3, H; 4,ME, 4,HOC SUB6 H SUB4, H; 4,ME, 4,3,(HO)MEC SUB6 H SUB3, H. THE STRUCTURES OF I WERE PROVEN BY THE COLOR REACTIONS OF ITS HYDROLYSIS PRODUCTS (DERIVS. OF P-AMINOPHENOL), THE DIAZO COUPLING OF THE HYDROLYSIS PRODUCTS WITH 1 NAPHTHOL, AND THE CONCURRENT OXION. OF I AND EXCESS PHOH WITH K SUB3 FE(DN) SUB6 IN AQ. NH SUB4 OH SOLN. WHICH GAVE 2 INDOPHENOLS (SEPD. BY PAPER CHROMATDG.). THESE REACTIONS ELIMINATE THE ALTERNATIVE STRUCTURE RC SUB6 H SUB4 SO SUB2 NRC SUB6 H SUB3 X(OH),3,4.

UNCLASSIFIED

MISERS

USSR

UDC 621.383.292

VIL'DGRUBE, G.S., DJNAYEVSKAYA, N.V., PODOKSINA, M.D., RONKIN, ZH.N.,
DALINENKO, N.K.

"Photomultiplier For Observation Of Coherent Radiation"

Elektron. tekhnika. Nauchno-tekh. sb. Elektronpoluch. i fotoelektr. appary
(Electronic Technology. Scientific-Technical Collection. Electron Beam and
Photoelectric Devices), 1970, Issue 2(16), pp 3-5 (from RKh-Elektronika i vye
primeneniye, No 4, April 1971, Abstract No 4A253)

Translation: The construction is described and the principal parameters are presented of the FEU [photomultiplier]-84 with multialkali photocathodes, intended for observation of the coherent radiation signals of a laser; the FEU-84 has the dimensions and basing of the FEU-15 and FEU-16. The spectral response of the photocathode at a wavelength of 700 nm amounts to 30 ± 270 microuampere/lm. The multiplier system contains 12 louvered dynodes of CuAlMg alloy. The limiting output current is 5 ma in a static regime and 0.5 ma in a pulsed. The anode sensitivity is 100 a/lm at a voltage of 1250--1600 v. The number of noise pulses at a plateau of the counter characteristic curve does not exceed $3 \pm 7 \cdot 10^2$ sec⁻¹. The sensitivity threshold is $3-5 \cdot 10^{-2}$ lm/Hz^{-1/2}. 2 ill.
2 ref. N.S.

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USSR

UDC 621.791.763.1:51.001.57

PODOLIA, N. V., Candidate of Technical Sciences, and DONCHENKO, N. A., Engineer, Institute of Electric Welding imeni Ye. P. Paton, Academy of Sciences Ukrainian SSR; and URSAT'YEV, A. A., Engineer, Institute of Cybernetics, Academy of Sciences Ukrainian SSR

"Mathematical Description of the Process of Resistance Spot Welding of Light Alloy Using Isomorphous Models"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 74, pp 16-19

Abstract: A possible method of accomplishing weld joint quality control using mathematical models to develop simpler mathematical descriptions of the spot welding process for parts of varying thickness and construction is described using the spot welding of D16AT alloy with a thickness of 1-1.5 mm in the region of optimum parameters of the weld mode. Tables are given with welding parameters which are then used in statistical equations for isomorphous models to produce the optimum parameters for producing quality welds which allows the proper welding parameters to be determined for the welding of parts of differing thicknesses and design. Seven tables, two bibliographic references.

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